

**AMENDMENTS TO THE CLAIMS**

Please amend claim 3, as follows:

1 1. (Original) A cathode for an electron tube, comprising:  
2 a base metal; and  
3 an electron emissive material layer attached on said base metal, said electron emissive layer  
4 including a surface roughness measured from a distance between a highest point and a lowest point  
5 of the surface of said electron emissive material layer, being controlled to be less than or equal to  
6 8 microns.

1 2. (Original) The cathode of claim 1, further comprised of the surface roughness distance  
2 being less than or equal to 5 microns.

1 3. (Currently Amended) ~~The cathode of claim 1,~~ A cathode for an electron tube, comprising:  
2 a base metal; and  
3 an electron emissive material layer attached on said base metal, said electron emissive layer  
4 including a surface roughness measured from a distance between a highest point and a lowest point  
5 of the surface of said electron emissive material layer, being controlled to be less than or equal to  
6 8 microns,  
7 further comprised of the density of said electron emissive material layer being 2 to 5

8 mg/mm<sup>3</sup>.

1 4. (Original) The cathode of claim 1, further comprised of the thickness of the electron  
2 emissive material layer being from 20 to 70 microns.

1 5. (Original) The cathode of claim 1, further comprised of said electron emissive material  
2 layer being attached on said base metal by one method selected from the group consisting essentially  
3 of printing and deposition.

1 6. (Original) The cathode of claim 1, further comprised of said electron emissive material  
2 layer being attached to said base metal by a screen printing method.

1 7. (Withdrawn) A method of preparing the cathode for an electron tube of claim 1, the  
2 method comprising the steps of:

3 preparing a paste comprising 40 to 60% by weight carbonate powder, 30 to 50% by weight  
4 solvent, and 1 to 10% by weight binder, based on the total weight of said paste; and

5 attaching said paste on said base metal using one member selected from the group consisting  
6 essentially of screen printing, painting and roll coating.

1 8. (Withdrawn) The method of claim 7, further comprised of said solvent being one member  
2 selected from the group consisting essentially of terpinol, butyl carbitol acetate, and a combination

3 of terpinol and butyl carbitol acetate.

1 9. (Withdrawn) The method of claim 7, further comprised of said binder being one member  
2 selected from the group consisting essentially of nitrocellulose and ethylcellulose.

A<sup>1</sup>  
2 10. (Withdrawn) A method, comprising the steps of:  
3 mixing carbonate powder, solvent, and binder to form a paste;  
4 applying said paste on a base metal of a cathode for an electron tube to form an electron  
5 emissive layer of said cathode, said paste to form an electron emissive layer for said cathode;  
6 controlling a surface roughness measured from a distance between a highest point and a  
7 lowest point of the surface of said electron emissive material layer to be less than or equal to 8  
microns.

1 11. (Withdrawn) The method of claim 10, with said step of controlling the surface roughness  
2 further comprised of the surface roughness being controlled to be less than or equal to 5 microns.

1 12. (Withdrawn) The method of claim 10, with said step of mixing carbonate powder,  
2 solvent, and binder to form a paste, further comprised of carbonate powder being 40 to 60% by  
3 weight carbonate powder, 30 to 50% by weight solvent, and 1 to 10% by weight binder, based on  
4 the total weight of said paste.

1           13. (Withdrawn) The method of claim 10, further comprised of said solvent being one  
2 member selected from the group consisting essentially of terpinol, butyl carbitol acetate, and a  
3 combination of terpinol and butyl carbitol acetate.

a<sup>1</sup>  
2           14. (Withdrawn) The method of claim 10, further comprised of said binder being one  
member selected from the group consisting of nitrocellulose and ethylcellulose.

1           15. (Withdrawn) The method of claim 10, further comprising the step of controlling the  
2 thickness of the electron emissive layer to be 20 to 70 microns.

1           16. (Withdrawn) The method of claim 10, with said step of applying said paste on said base  
2 metal further comprising of apply said paste by one member selected from the group consisting of  
3 printing and deposition.

1           17. (Withdrawn) The method of claim 10, with said step of applying said paste on said base  
2 metal further comprising of apply said paste by screen printing and said step of controlling the  
3 surface roughness by screen printing.

1           18. (Withdrawn) A method, comprising the steps of:  
2           mixing carbonate powder being 40 to 60% by weight carbonate powder, 30 to 50% by weight  
3 solvent, and 1 to 10% by weight binder to form a paste, based on the total weight of said paste; and

4 printing said paste on a base metal of a cathode for an electron tube to form an electron  
5 emissive layer of said cathode.

*Concld*  
*A<sup>1</sup>*  
1 19. (Withdrawn) The method of claim 18, further comprised of said printing being screen  
2 printing.

1 20. (Withdrawn) The method of claim 18, further comprising the step of controlling a surface  
2 roughness of said electron emissive layer to a predetermined distance, the surface roughness being  
3 measured from a distance between a highest point and a lowest point of the surface of said electron  
4 emissive material layer.

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